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#### UNITED STATES PATENT AND TRADEMARK OFFICE

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# BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

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# Ex parte MOTOHIRO NAKAMAKI and HIROYUKI WATANABE

Appeal 2008-4970 Application 09/888,541 Technology Center 2600

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Decided: March 6, 2009

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Before KENNETH W. HAIRSTON, ROBERT E. NAPPI, and MARC S. HOFF, *Administrative Patent Judges*.

NAPPI, Administrative Patent Judge.

#### **DECISION ON APPEAL**

This is a decision on appeal under 35 U.S.C. § 6(b) of the Examiner's non-final rejection of claims 1-18 and 20.<sup>2</sup>

We affirm-in-part the Examiner's rejection of these claims.

<sup>&</sup>lt;sup>1</sup> The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

<sup>2</sup> Claim 19 was previously cancelled.

#### **INVENTION**

The invention is directed towards "a printer that is configured to preread a received data stored in its receiving buffer, if necessary, such that it can interpret any control data prior to actual processing of the print data." See generally Spec. 2:11-15. Claim 1 is representative of the invention and reproduced below:

### 1. A printer comprising:

a receiving buffer in which received print data and control data are stored therein without analysis as received data in the order of receipt;

an executing section configured to read the received data from the receiving buffer in the order of storage, and develop the received data into an image if the received data is the print data and execute a control command if the received data is a control command of the control data; and

a pre-processing section configured to pre-read the received data stored in the receiving buffer before the executing section reads the received data and, when a specific control command of the control data from the pre-read received data is found, the pre-processing section executes a procedure corresponding to the detected control command prior to the executing section.

# REFERENCES

Koakutsu	US 6,285,459 B1	Sep. 4, 2001 (filed Nov. 23, 1999)
Kageyama	US 6,504,619 B1	Jan. 7, 2003 (filed Jul. 30, 1997)
Kashiwazaki	US 6,570,605 B1	May 27, 2003 (filed May 19, 2000)
Hashimoto	US 6,804,016 B2	Oct. 12, 2004 (filed June 19, 1997)

#### **REJECTIONS AT ISSUE**

The Examiner rejected claims 1, 4, 5, 18, and 20 under 35 U.S.C. § 102(e) as being anticipated by Koakutsu.

The Examiner rejected claims 2 and 3 under 35 U.S.C. § 103(a) as unpatentable over Koakutsu in view of Kashiwazaki.

The Examiner rejected claims 6 through 13 under 35 U.S.C. § 103(a) as unpatentable over Koakutsu in view of Kashiwazaki and Kageyama.

The Examiner rejected claims 14 through 15 under 35 U.S.C. § 103(a) as unpatentable over Koakutsu in view of Hashimoto.

The Examiner rejected claims 16 through 17 under 35 U.S.C. § 103(a) as unpatentable over Koakutsu in view of Hashimoto, Kashiwazaki, and Kageyama.

#### **ISSUES**

Rejection under 35 U.S.C. § 102(e) as anticipated by Koakutsu.

Claim 1

Appellants argue on pages 8 through 10 of the Appeal Brief that the Examiner's rejection of claim 1 under 35 U.S.C. § 102(e) is in error. Appellants assert on page 9 of the Appeal Brief that "Koakutsu does not disclose when a specific control command of the control data from the preread received data is found, that the pre-processing section executes a procedure corresponding to the detected control command prior to the executing section."

Thus, with respect to claim 1, Appellants' contentions present us with the issue: did the Examiner err in finding that Koakutsu teaches a preprocessing section that executes a procedure corresponding to the detected control command prior to the executing section?

#### Claim 4

Appellants argue on page 12 of the Appeal Brief that claim 4 is allowable based upon its dependency on claim 1. Thus, Appellants' arguments with respect to the Examiner's rejection of claim 4 present us with the same issue as claim 1.

#### Claim 5

Appellants argue on page 12 of the Appeal Brief that the rejection of claim 5 is in error, as claim 5 is dependent upon claim 1. Therefore, Appellants' arguments with respect to the Examiner's rejection of claim 5 present us with the same issue as claim 1.

#### Claims 18 and 20

Appellants' arguments on pages 10 through 11 of the Appeal Brief identify similar limitations in independent claims 18 and 20, as discussed above with respect to claim 1. Thus, Appellants' arguments with respect to the Examiner's rejection of claims 18 and 20 present us with the same issue as claim 1.

Rejection under 35 U.S.C. § 103(a) as unpatentable over Koakutsu in view of Kashiwazaki.

#### Claim 2

Appellants argue on page 13 of the Appeal Brief that the Examiner's rejection of claim 2 under 35 U.S.C. § 103(a) as being unpatentable over Koakutsu in view of Kashiwazaki is in error. Appellants reason that claim 4 is allowable based upon its dependency on claim 1. App. Br. 13. Thus,

Appellants' arguments with respect to the Examiner's rejection of claim 4 present us with the same issue as claim 1.

#### Claim 3

Appellants argue on pages 13 through 14 of the Appeal Brief that the Examiner's rejection of claim 3 under 35 U.S.C. § 103(a) as being unpatentable over Koakutsu in view of Kashiwazaki is in error. Appellants argue that "Kashiwazaki does not disclose the read-out position changing section." App. Br. 14.

Thus, Appellants' contentions present us with the issue: did the Examiner err in finding that Koakutsu in view of Kashiwazaki discloses a read-out position changing section?

Rejection under 35 U.S.C. § 103(a) as unpatentable over Koakutsu in view of Kashiwazaki and Kageyama.

Appellants contend on page 14 of the Appeal Brief that the Examiner's rejection of claims 6-13 under 35 U.S.C. § 103(a) as being unpatentable over Koakutsu in view of Kashiwazaki and Kageyama is in error. We select claim 6 as representative of the group comprising claims 6-13 since Appellants did not separately argue claims 7-13 with particularity. 37 C.F.R. § 41.37(c)(1)(vii). Appellants argue that the references do not teach "a read-pointer for the read-out task and a pre-read pointer." App. Br. 14.

Thus, with respect to claims 6-13, Appellants' contentions present us with the issue: did the Examiner err in finding that Koakutsu in view of Kashiwazaki and Kageyama discloses a read-pointer for the read-out task and a pre-read pointer?

Rejection under 35 U.S.C. § 103(a) as unpatentable over Koakutsu in view of Hashimoto.

Appellants contend on pages 14-15 of the Appeal Brief that the Examiner's rejection of claims 14-15 under 35 U.S.C. § 103(a) as being unpatentable over Koakutsu in view of Hashimoto is in error. Appellants reason that claims 14-15 are allowable based upon its dependency on claim 1. App. Br. 13. Thus, Appellants' arguments with respect to the Examiner's rejection of claims 14-15 present us with the same issue as claim 1.

Rejection under 35 U.S.C. § 103(a) as unpatentable over Koakutsu in view of Hashimoto, Kashiwazaki, and Kageyama.

Appellants contend on page 15 of the Appeal Brief that the Examiner's rejection of claims 16-17 under 35 U.S.C. § 103(a) as being unpatentable over Koakutsu in view of Hashimoto, Kashiwazaki, and Kageyama is in error. Appellants reason that claims 16-17 are allowable based upon their dependency on claim 1. App. Br. 15. Thus, Appellants' arguments with respect to the Examiner's rejection of claims 16-17 present us with the same issue as claim 1.

#### FINDINGS OF FACT

#### Koakutsu

- 1. Koakutsu teaches a printing apparatus that controls the processing of print jobs received from a host device, e.g., a computer.

  Koakutsu, col. 2, 11. 40-42 and Fig. 1.
- 2. The computer sends both print data and control data via an interface to a data receiving unit of a printer. Koakutsu, col. 3, 11. 55-63 and Fig. 1.
- 3. When the data is received, the data receiving unit determines whether it is print data or commands and the commands are analyzed. Koakutsu, col. 4, 11. 4-6 and Fig. 1.
- 4. Print data is then sent to a print image data generator and, according to the perceived interpretation by the data receiving unit, commands are sent to a processor unit. Koakutsu, col. 4, 11. 6-9 and Fig. 1.
- 5. If the data receiving unit receives an erasure mode selection command, the storage unit receives an erasure request. Koakutsu, col. 4, ll. 46-48 and Fig. 1.
- 6. In accordance with a print processing command, the print controller, or processing unit, sends a read request to the storage unit. Koakutsu, col. 4, ll. 8 and 31-33 and Fig. 1.
- 7. As a result, "print image data 13 read out from the prescribed position in storage unit 7 is printed at a location on the recording medium corresponding to this prescribed position." Koakutsu, col. 4, 11. 33-36 and Fig. 1.

#### Kashiwazaki

- 8. Kashiwazaki teaches a print control method and apparatus capable of interruption printing. Kashiwazaki, Abstract.
- 9. Kashiwazaki discloses a job controller that contains a job management table. Kashiwazaki, col. 5, 11. 35-38 and Figs. 3 and 4.
- 10. The job management table contains a job table that is used to manage print jobs. In addition, the job management table contains a job table management table that is used to manage the job table. Kashiwazaki, col. 5, ll. 39-41 and Fig. 4.
- 11. The job table management table comprises a first job address, a current job address, and a final job address. The first job address indicates the first job; the current job address indicates that it is currently being read out; and the final job address indicates the last job. Kashiwazaki, col. 5, ll. 60-64 and Fig. 4.
- 12. When an interrupt print command is received, the job that is currently being printed is suspended. Kashiwazaki, col. 7, ll. 7-9, 41, and Fig. 6.
- 13. Kashiwazaki gives a detailed description of the process to interrupt a job that was sent to the printer. However, Kashiwazaki also notes that this process can be used to cancel a job that was sent to the printer. Kashiwazaki, col. 4, ll. 59-67 through col. 5, ll. 1-33.
- 14. The process includes storing information pertaining to the suspended print job, where the print operation will be resumed, in the job table's resume page section. Kashiwazaki, col. 7, 11. 44-47 and Figs. 4 and 6.

15. The order of the print jobs is rearranged to replace the first print job with the interrupt print job. Then, the next job address of the print job table indicates the suspended print job. Kashiwazaki, col. 7, 11. 49-53 and Figs. 4 and 6.

### Kageyama

- 16. Kageyama discloses a print control apparatus which includes a command buffer managing section. Kageyama, col. 8, 11. 3-5.
- 17. "The command buffer managing section controls pointers for reading out and writing from/into the command buffer and preserves the content of the command buffer." Kageyama, col. 9, ll. 16-19.
- 18.A command buffer management table section is included in the command buffer management section. Kageyama, col. 9, ll. 19-23.
- 19. The management table section includes "a write start pointer; a write end pointer; a data end pointer in the command buffer; a command buffer read pointer; and a pointer of the root of a command buffer discharge queue." Kageyama, col. 10, ll. 5-12 and Fig. 2.
- 20. Three of the pointers, the write start, write end, and the data pointers, are used to control the writing operation of the command to the command buffer. Kageyama, col. 10, ll. 12-15.
- 21. The reading operation of the commands from the command buffer are controlled by the command buffer read pointer, the data end pointer, and the write start pointer. Kageyama, col. 10, ll. 16-19.

#### PRINCIPLES OF LAW

Office personnel must rely on Appellants' disclosure to properly determine the meaning of the terms used in the claims. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995) (en banc). "[I]nterpreting what is *meant* by a word *in* a claim is not to be confused with adding an extraneous limitation appearing in the specification, which is improper." *In re Cruciferous Sprout Litigation*, 301 F.3d 1343, 1348 (Fed. Cir. 2002) (internal quotation marks and citations omitted (emphasis in original)).

It is well settled that in order for the examiner to establish a *prima* facie case of anticipation, each and every element of the claimed invention, arranged as required by the claim, must be found in a single prior art reference, either expressly or under the principles of inherency. See generally, Schreiber, 128 F.3d at 1477, 44 USPQ2d at 1431; Diversitech Corp. v. Century Steps, Inc., 850 F.2d 675, 677-78, 7 USPQ 1315, 1317 (Fed. Cir. 1988); Lindemann Maschinenfabrik GMBH v. American Hoist and Derrick, 730 F.2d 1452, 1458, 221 USPQ 481, 485 (Fed. Cir. 1984).

On the issue of obviousness, the Supreme Court has stated that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1739 (2007).

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar

devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. . . . [A] court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions.

*Id.* at 1740. "One of the ways in which a patent's subject matter can be proved obvious is by noting that there existed at the time of the invention a known problem for which there was an obvious solution encompassed by the patent's claims." *Id.* at 1742.

#### ANALYSIS

Rejection under 35 U.S.C. § 102(e) as anticipated by Koakutsu.

Claim 1

Appellants' arguments have not persuaded us that the Examiner's rejection of claim 1 under 35 U.S.C. § 102(e) as anticipated by Koakutsu is in error. Claim 1 recites "when a specific control command of the control data from the pre-read received data is found, the pre-processing section executes a procedure corresponding to the detected control command prior to the executing section." Appellants agree with the Examiner that Koakutsu discloses a receiving buffer (a data receiving unit), (App. Br. 8) and an executing section (a printing controller) (App. Br. 9). Appellants argue, however, that these components do not comprise "a pre-processing section configured to pre-read the received data stored in the receiving buffer before the executing section reads the received data." App. Br. 9. We agree with Appellants but do not agree that Koakutsu fails to disclose the claimed limitations. The Examiner found that the data receiving unit of Koakutsu, and more specifically the CPU, corresponds to the pre-processing section claimed in claim 1. Ans. 15. The Examiner also found that the

erasure mode selection command 11 constitutes a specific control command as recited in claim 1. Ans. 15. Additionally, the Examiner has found that the printer controller of Koakatsu corresponds to the executing section claimed in claim 1. Ans. 15. Therefore, the Examiner is not associating the data receiving unit *and* the executing section as the "pre-processing section" but rather only the data receiving unit as the "pre-processing section."

We agree with the Examiner's interpretation of Koakutsu. Koakutsu teaches a printing apparatus that controls the processing of print jobs received from a computer. FF 1. The computer sends both print data and control data to the printer's data receiving unit. FF 2. The data receiving unit acts as a pre-processing section and determines what type of data is received and print data is routed to an image data generator while commands are routed to a processor unit. FF 3-4. If an erasure mode selection command (11c) is received, an erasure request is sent to the storage unit. FF 5. Therefore, since the data receiving unit analyzes the incoming data to separate the print data and the commands, we agree with the Examiner that the data receiving unit acts as the claimed pre-processing section. We also agree with the Examiner that when a specific control command is found, i.e., an erasure command, the pre-processing section executes the command. Ans. 15.

Additionally, in accordance with a print processing command, the print controller, or processing unit, sends a read request to the storage unit. FF 6. As a result, "print image data read out from the prescribed position in storage unit is printed at a location on the recording medium corresponding to this prescribed position." FF 7. Therefore, we agree with both Appellants

and the Examiner that the print controller acts as the executing section. Accordingly, we affirm the Examiner's rejection of claim 1.

#### Claim 4

Appellants' arguments have not persuaded us of error in the Examiner's rejection of claim 4. Claim 4 ultimately depends upon claim 1. Appellants' arguments present the same issues discussed with respect to claim 1 (App. Br. 12). Therefore, we sustain the Examiner's rejection of claim 4 for the reasons discussed *supra* with respect to claim 1.

#### Claim 5

Appellants' arguments have not persuaded us of error in the Examiner's rejection of claim 5. Claim 5 ultimately depends upon claim 1. Appellants' arguments present the same issues discussed with respect to claim 1 (App. Br. 12-13). Therefore, we sustain the Examiner's rejection of claim 5 for the reasons discussed *supra* with respect to claim 1.

#### Claims 18 and 20

Appellants' arguments have not persuaded us of error in the Examiner's rejection of claims 18 and 20. Appellants separately argue claims 18 and 20, as a group, using the same rationale directed to the Koakutsu reference discussed above with respect to claim 1. As discussed above, we agree with the Examiner that Koakutsu teaches a pre-processing section that executes a procedure corresponding to the detected control command prior to the executing section. Accordingly, we sustain the Examiner's rejection of claims 18 and 20.

Rejection under 35 U.S.C. § 103(a) as unpatentable over Koakutsu in view of Kashiwazaki.

#### Claim 2

Appellants' arguments have not persuaded us of error in the Examiner's rejection of claim 2. Claim 2 ultimately depends upon claim 1. Appellants' arguments present the same issues discussed with respect to claim 1 (App. Br. 13). Therefore, we sustain the Examiner's rejection of claim 2 for the reasons discussed *supra* with respect to claim 1.

#### Claim 3

Appellants' arguments have persuaded us that the Examiner's rejection of claim 3 under 35 U.S.C. § 103(a) over Koakutsu in view of Kashiwazaki is in error. Claim 3 recites "a read-out position changing section which functions, when the pre-processing section has executed the cancel command, such that the position in the receiving buffer for the executing section to read the received data is jumped to the position next to the cancel command." Appellants argue that Kashiwazaki teaches that "when an interruption occurs, a resume page information 417 holds information for resuming the job which was interrupted by the other job." App. Br. 13-14. The Examiner has found that Kashiwazaki teaches "that PDL data is acted on based on the order of storage (order of reception) showing that the reading out of the job control data (command data) is moved from the currently processed job control data to the next awaiting job control data." Ans. 16-17. We agree with Appellants.

Kashiwazaki teaches a print control method and apparatus capable of interruption printing. FF 8. Kashiwazaki discloses a job controller that contains a job management table. FF 9. The job management table contains

a job table that is used to manage print jobs. FF 10. In addition, the job management table contains a job table management table that is used to manage the job table. FF 10. The job table management table comprises the following job addresses: first job, current job, and final job. FF 11. When an interrupt command is received, the job that is currently being printed is suspended and information pertaining to the suspended print job is stored in the job table's resume page section. FF 12. The job table's resume page section indicates that the currently suspended job will be resumed after the interruption is completed. FF 14. As a result, the order of the print jobs is rearranged to replace the first print job with the interrupt print job and the next job with the suspended print job. FF 15. Therefore, after the interruption (or cancel) occurs, the next print job to be completed is the print job that was suspended, not the print job that follows the cancelled print job as recited in claim 3. Accordingly, we reverse the Examiner's rejection of claim 3.

Rejection under 35 U.S.C. § 103(a) as unpatentable over Koakutsu in view of Kashiwazaki and Kageyama.

Appellants arguments have not persuaded us that the Examiner's rejection of claims 6-13 under 35 U.S.C. § 103(a) over Koakutsu in view of Kashiwazaki and Kageyama is in error.

Claims 6-13 are subject to the same ground of rejection and are argued as a group by Appellants. Therefore, under 37 C.F.R. § 41.37(c)(1)(vii), we select claim 6 to be representative of the group.

Claim 6 recites "a read-out task configured to read out the receiving data from the receiving buffer according to a read-out pointer, output them,

and count up the read-out pointer every time...the pre-processing section being realized by a pre-read execute processing incorporated in the main task, which reads out the received data from the receiving buffer according to a pre-read pointer, counts up the pre-read pointer every time, and functions, when the cancel command is found from the received data, to cancel the print based on the print data received prior to the cancel command." Appellants argue that "a job controller 306 or a DPL<sup>3</sup> analyzer 307 are not realized by a main task, and the DPL analyzer 307 does not find a cancel command, and further does not cancel printing based on the print data received prior to the cancel command when the cancel command is found." App. Br. 14. Additionally, Appellants argue that Kashiwazaki "does not disclose a read-pointer for the read-out task and a pre-read pointer." App. Br. 14. The Examiner, however, has found that Kashiwazaki teaches all of the limitations except for the read-out task and a pre-read pointer. Ans. 17. Instead, the Examiner has found that Kageyama teaches these features. We agree with the Examiner.

As discussed above, Kashiwazaki teaches a job controller that receives a cancel command and cancels printing based on the print data received prior to the cancel command. FF 8-15. However, Kageyama, not Kashiwazaki, discloses the read-pointer and the pre-read pointer as claimed in claim 6.

Kageyama discloses a print control apparatus which includes a command buffer managing section. FF 16. "The command buffer managing section controls pointers for reading out and writing from/into the command

<sup>&</sup>lt;sup>3</sup> We note that Appellants mistakenly use DPL instead of PDL as indicated in the reference.

buffer and preserves the content of the command buffer." FF 17. A command buffer management table section is included in the command buffer management section. FF 18. The management table section includes "a write start pointer; a write end pointer; a data end pointer in the command buffer; a command buffer read pointer; and a pointer of the root of a command buffer discharge queue." FF 19. Three of the pointers, the write start, write end, and the data pointers, are used to control the writing operation of the command to the command buffer. FF 20. These are equivalent to the pre-read pointer described in claim 6 since they are used to write the commands to the command buffer prior to executing the command. The reading operation of the commands from the command buffer are controlled by the command buffer read pointer, the data end pointer, and the write start pointer. FF 21. These are equivalent to the read-out pointer since they are used to read and execute the commands. As a result, Appellants' arguments have not persuaded us of error in the Examiner's rejection of claims 6-13.

Rejection under 35 U.S.C. § 103(a) as unpatentable over Koakutsu in view of Hashimoto.

Appellants' arguments have not persuaded us of error in the Examiner's rejection of claims 14 and 15. Claims 14 and 15 ultimately depend upon claim 1. Appellants' arguments present the same issues discussed with respect to claim 1 (App. Br. 14-15). Therefore, we sustain the Examiner's rejection of claims 14 and 15 for the reasons discussed *supra* with respect to claim 1.

Rejection under 35 U.S.C. § 103(a) as unpatentable over Koakutsu in view of Hashimoto, Kashiwazaki, and Kageyama.

Appellants' arguments have not persuaded us of error in the Examiner's rejection of claims 16 and 17. Claims 16 and 17 ultimately depend upon claim 1. Appellants' arguments present the same issues discussed with respect to claim 1 (App. Br. 15). Therefore, we sustain the Examiner's rejection of claims 16 and 17 for the reasons discussed *supra* with respect to claim 1.

#### **CONCLUSIONS OF LAW**

Appellants have not shown that the Examiner erred in finding that Koakutsu teaches a pre-processing section that executes a procedure corresponding to the detected control command prior to the executing section.

Appellants have not shown that the Examiner erred in finding that Koakutsu in view of Kashiwazaki teaches a pre-processing section that executes a procedure corresponding to the detected control command prior to the executing section.

Appellants have shown that the Examiner erred in finding that Koakutsu in view of Kashiwazaki discloses a read-out position changing section.

Appellants have not shown that the Examiner erred in finding that Koakutsu in view of Kashiwazaki and Kageyama discloses a read-pointer for the read-out task and a pre-read pointer.

Appellants have not shown that the Examiner erred in finding that Koakutsu in view of Hashimoto teaches a pre-processing section that

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executes a procedure corresponding to the detected control command prior to the executing section.

Appellants have not shown that the Examiner erred in finding that Koakutsu in view of Hashimoto, Kashiwazaki, and Kageyama teaches a preprocessing section that executes a procedure corresponding to the detected control command prior to the executing section.

### **ORDER**

The Examiner's rejection of claims 1-2, 4-18, and 20 is affirmed and the Examiner's rejection of claim 3 is reversed.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

## **AFFIRMED-IN-PART**

ELD

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